



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

## GEOGRAPHICAL RECORD.

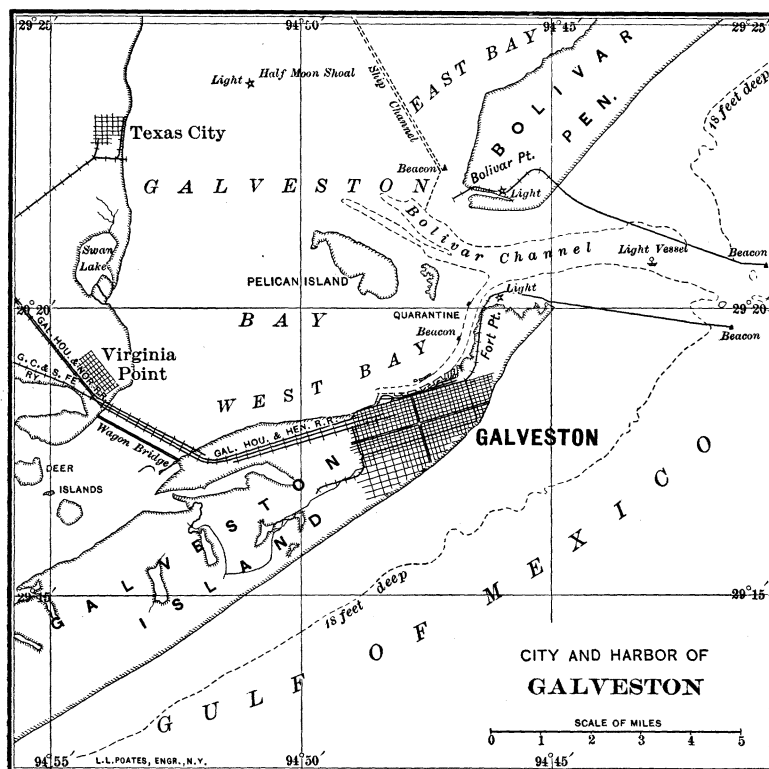
### THE UNITED STATES.

POSITION AND TRADE OF GALVESTON.—The harbors along the coast of Texas have little importance for international commerce, except Galveston and Sabine Pass. All the other indentations are too shallow to admit large vessels. Sabine Pass is at the extreme southeast corner of the State. The Government has spent large sums in improving the entrance to its land-locked lake, and its business in lumber shipments is now important. Its harbor is commodious and deep, but its disadvantages are that it is not so conveniently situated as Galveston for communications with the interior of the State, and, furthermore, the railroad system of Texas has been developed with Galveston in view as the natural geographical outlet by sea for the cotton, cattle, and other products of that region.

Galveston, nearly 300 miles west of the Mississippi delta, is centrally situated on the coast of the best-watered, most fertile and most populous part of Texas. The Brazos valley, the largest river basin in the State, and growing the best and most abundant crops of cotton, is directly tributary to it. There are four large railroad centres in Texas, from which lines radiate to all points of the compass, and these receiving points are all feeders of Galveston's commerce. These railroad centres are Dallas, surrounded by great areas of cotton and wheat lands; Fort Worth, the largest centre of the Texas cattle trade; Waco, which forwards much of the export cotton of the Brazos valley; and Houston, where 7,000 miles of railroads converge, and which has both rail and water communication with Galveston. Thus, without Galveston, the entire transportation system of the State, as developed, would be thrown into confusion. The advantages of Galveston's geographical position and its excellent harbor, and the consequent convergence upon the port of the inland freight routes which tap large agricultural and grazing regions, have made this city, in recent years, the second cotton port in the Union, and doubled her export business between 1892 and 1899. Last year Galveston was the fourth export port of the country, being surpassed only by New York, Boston and Baltimore.

Thus, while the development of Sabine Pass as a large seaport is mainly in the future, the necessity for Galveston had already

been demonstrated and its development achieved before the terrible cyclone of September 8 nearly destroyed the city. The rebuilding of the port began as soon as possible after the calamity, not only because there is need for it, but also because there is no reason to believe that such a storm will ever again assail it; and, moreover, experts express confidence that engineering works may be provided that will prevent the recurrence of such a disaster.



This map shows the position of the port on Galveston Island, which is nothing but a sand barrier piled up by the waves during the past few centuries in front of the mainland. The island is over twenty-five miles long and from one to three and a half miles in width, and the city stands some two miles from its northeast end at Fort Point. The reëntrant known as Galveston Bay, formed by a number of flooded valleys, extends into the mainland for about thirty miles north of the city, but is everywhere too shallow for the use of the larger ships, except a comparatively small area at the entrance to

the bay and along the water-front on the north side of the city. This field, however, is large enough to meet the needs of a great commerce, and is of sufficient depth to accommodate the largest modern vessels. Between this singular depression and the deep water of the neighboring sea, just in and outside the channel that forms the entrance to the harbor, is the usual fringe of shoal water; but it is only about two miles across. It is here that the Government has made improvements to facilitate entrance to the port. About \$8,000,000 have been expended in building jetties, extending from Fort Point and Bolivar Point two miles gulfward. This large engineering work has been successful; the channel has been scoured through and a permanent deep-water passage secured from the Gulf into the Bay. Extensive dockage and warehouse facilities stood on the bay side of the city at the time of the cyclone, and others were building. Many wharves were injured only in parts of their superstructure. The map shows the three railroad bridges and the wagon bridge that connected the port with the mainland. All of them were swept away, and eight railroads have now combined to build for their purposes a double-track steel bridge, ten feet higher than the single-track bridges that were destroyed. It was found after the storm that the port itself was scarcely injured, and it has to-day a safe depth of twenty-seven feet.

The city extends across the island from the Bay to the Gulf, and its site is from six and a half to ten feet above mean tide-level. Earlier storms had given warnings, but they were not so serious as to create apprehensions that the city could be overwhelmed as it was on September 8. A storm thirty-three years ago caused the water to rise about six and one-half feet above mean tide, flooding the lower levels of the town. In the storm of 1875 the rise was a few inches higher; while in 1877, when the wind blew sixty miles an hour, the rise was only a little over five feet. In September last the wind exceeded a velocity of 100 miles an hour, but was chiefly important as the cause of the high seas that wrought most of the destruction. Galveston was in the vortex of the storm, and was simultaneously overwhelmed by waves both from the Gulf and the Bay. Still, many buildings on the higher levels escaped absolute destruction, while the ruin wrought on the lower levels was almost complete. A number of engineers have suggested plans for the future protection of the city; and it is not unlikely that a Commission will be appointed to agree upon the best means of safeguarding this important seaport.

**SAN DIEGO AS A SEAPORT.**—Two years ago, San Diego, Cal., had practically no sea trade, while to-day ocean vessels are discharging merchandise there and loading with cotton and other products for the Orient. This is due to the improvements recently made in the port. The citizens have expended about \$1,000,000 in wharves, and the Government is completing a jetty at the harbor entrance, by which means it is expected to scour out the sand and mud bottom, so that the largest vessels may enter at any time. As it is, the depth of water at the entrance is twenty-two and one-half feet at low tide, which is only two feet less than at San Francisco. Merchandise to the value of \$2,631,599 was exported last year, which was more than ten times the value of the export trade in 1898. If the rate of exportation for the first quarter of this year is maintained throughout, the exports in 1900 will be at least \$6,000,000. The imports grew from \$142,108 in 1898 to \$1,501,588 in 1899. The annual report of the San Diego Chamber of Commerce says it is expected there that the port, in a few years, will handle all the shipping trade of the southwest part of the country and an important share of the trans-continental trade. San Diego is connected with the Southern Pacific system as well as the coast lines of railroads; and as there is no practicable port for large shipping to the north till San Francisco is reached, it is greatly to be desired that the advantages of San Diego may prove adequate for the development of a large commerce.

**NATURAL GAS.**—The Twentieth Annual Report of the United States Geological Survey says that though natural gas in this country has been much reduced in quantity it bids fair to be a resource of considerable importance for years to come. The long-continued drain is felt in nearly all the fields long worked, but many companies are keeping up a full supply to their customers by extending their pipe-lines to new grounds. Thus the value of the natural gas produced in Ohio began to decline in 1892; but the decline was arrested in 1898, when the product was worth a third of a million dollars more than in 1897, owing to increased production in the Lancaster field, where new and vigorous wells were developed. In some districts, deeper drilling may tap new reservoirs, and discoveries are likely to be made in territory not yet adequately explored. Kansas, for example, has recently developed considerable new gas territory. The consumption of natural gas is now far more economical than in the early years of its use, as a given amount of effective work is now performed with less than one-half the quantity of gas

that was required at the time of its introduction. The estimated value of the coal and wood which it displaced in 1898 was over \$18,000,000. Its largest use is to supply heat and light for domestic purposes. It is found in many thousands of homes in the western parts of New York and Pennsylvania and in northern Indiana, north-western West Virginia, north-eastern and north-western Kentucky and south-eastern Kansas. It is also used for domestic purposes, to a smaller extent, in Texas, Utah, Colorado, California, Illinois and Missouri. Its use for industrial purposes did not include quite 1,200 establishments in 1898, and its restricted consumption in this field will, of course, tend to prolong the life of the gas wells.

NEW GOLD FINDS IN ALASKA.—Though the Koyukuk river and its tributaries are not yet thoroughly explored, mining prospectors have discovered mineral resources in that basin which promise to be of much value. The Koyukuk, about 700 miles in length, is one of the two largest northern tributaries of the Yukon. Its sources are not far from the Porcupine river, the other large tributary, and it flows to the west, north of the Yukon Hills, and then south, joining the Yukon about 400 miles from its mouth. Early in 1898 a few miners located pay-dirt on the gold belt that runs through the territory, about 600 miles up the Koyukuk. The reports, last fall, that they were doing finely, led to the departure of several hundred miners from the Klondike in the spring of this year. Consul J. C. McCook writes from Dawson that about 200 miners left that camp with pack horses and mules to take the overland trail from near Fort Yukon to the new fields; and another party started on a steamboat for the mouth of the Koyukuk, which they intended to ascend to the diggings. The whole region is reported to be rich in gold indications.

A Government party will sledge up the Koyukuk on the river ice early next spring. It will go to the Altenkakat tributary, about three-fourths of the way to the gold discoveries, and then strike north up that river and carry on explorations through the unknown northern part of Alaska to the coast of the Arctic Ocean. Supplies were cached, last summer, on the Altenkakat for the use of the exploring party next spring.

SURVEYS IN ALASKA.—It is doubtful if knowledge of any other part of the world has grown so rapidly in the past two years as that of Alaska. The Government surveys and explorations have been vigorously carried on in the past season. A Geological Survey

party, under Mr. E. C. Barnard, has been making a topographical survey of the Seward Peninsula, the westernmost extension of Alaska, between Kotzebue and Norton Sounds. The Cape Nome gold district is on its south-west coast, and the newly discovered gold region of Cape York is on its north-west side. The map of this region is to be on the scale of four miles to the inch. Another party, under Mr. Alfred Brooks, studied the gold resources in the Cape York district, and another expedition, including Mr. W. J. Peters, topographer, and Mr. W. C. Mendenhall, geologist, went inland from Kotzebue Sound to trace southward the gold-bearing belt that seems to extend south-west across the peninsula, and is now being worked at its southern terminus on the sea. The Coast and Geodetic Survey also sent two steamers, the *Pathfinder* and the *Patterson*, to survey the entire coast from St. Michael to Cape York and Port Clarence, giving special attention to harbor facilities, if any exist. Thus five expeditions have been at work on Seward Peninsula and its coasts, and the result of this season's pioneering in this northern part of Alaska is expected to throw as much light upon that region as last year's surveys contributed to the knowledge of the more southern parts of the territory.

#### SOUTH AMERICA.

EXPLORATION IN THE NINETEENTH CENTURY.—Prof. Dr. W. Sievers, in his exhaustive article on geographical exploration in South America in the present century (*Petermanns Mitteilungen*, VI, 46 Bd., 1900), says that, up to 1875, no Government on that continent had sent out any expeditions or spent any money to explore the unknown parts of its territories. Nearly all the exploration of this century, excepting in Chile and Argentina, has been the result of private enterprise, mostly by European and North American explorers. Thus none of the Cordilleran States, from Venezuela to Chile, has, as yet, emerged from the stage of rough, pioneer exploration. A considerable portion of their territory, as in the south-eastern part of Colombia, is still almost wholly unknown. Some of them, like Bolivia, have made no attempt, except in small districts around their chief towns, to carry out official surveys. Conway, who recently passed through New York on his return to the Bolivian Cordilleras, is doing for Bolivia what other explorers, chiefly German, have done for the Ecuadorian ranges. Among the Atlantic States, the Guianas, except for a narrow strip along the coasts, are still on the threshold of exploration. Brazil has no establishment like our Geological or Coast and Geodetic Survey to make a scientific study

of any part of its vast domain. All the official explorations in Brazil are the work of some of the individual States. Scarcely a traveller has crossed any of the north-eastern States, from Maranhão to Pernambuco; and much of the interior, except along the river courses, is still quite unknown. The wide wildernesses between the large tributaries of the Amazon are completely *terra incognita*.

In Argentina, however, very satisfactory progress in exploration has been made in the past quarter of a century. In 1882 the first collected results of the Government's activity in this direction were the large atlas of the country, prepared under the care of the geographer Seelstrang. Argentina has geological and meteorological establishments, and foreign scientific men in the service of the State and the Universities, whose labors have greatly enhanced the value of all official geographical work. The systematic study, which both Argentina and Chile have, for some years, given to the ranges along their common frontier, has made a large portion of this the best-known part of the South American Cordilleras. The reason why Africa, as a whole, is better known to-day than South America is because so many European nations, eager for foreign territorial acquisitions, have so zealously participated in its exploration; while in South America the poverty of the various States and their political disturbances have prevented them from contributing largely to the knowledge of their own continent. Thus there is more opportunity for pioneer exploration in South America than in any other continent, though the Spaniards crossed it from sea to sea over three centuries ago, and nearly every city on its coasts was founded in the era of the Columbian explorers.

THE HARBOR AT BUENOS AIRES.—The *Buenos Aires Herald* says that the Argentine Government has spent in twelve years nearly \$50,000,000 in building a series of docks and basins for the accommodation of the shipping at that port. The mistake was made, however, of building a port without an adequate entrance to it. No preliminary study was given to the variable currents of the La Plata, nor any heed to the fact that enormous quantities of silt surcharge the river waters. Channels for the admittance of vessels were dug right across the currents, and they filled, or partly filled, with silt nearly as fast as they were dug. The result is that the approaches to the fine series of docks are lamentably inferior to their capacity and to the demands of commerce. The Government has now appointed an expert Commission to study all the conditions and report a practical plan for the construction of an enduring approach.



## EUROPE.

POPULATION OF SARDINIA AND SICILY.—A. Cossu, who has made a study (*Riv. Geog. Ital., Fasc. II.-III.*, 1898) of the distribution of the population of Sardinia in respect of distance from the sea, finds that since 1845 the population has been gradually increasing near the sea and decreasing inland. At an earlier period the malarial coasts and the attacks of pirates were strong influences driving population inland. At present, however, the density of population on the coast of the island is 46 to the square kilometer; from the coast to five kilometers inland, 34; and further inland, from 22 to 31. The steep and malarial coast facing Italy is for considerable distances almost uninhabited. This study recalls the investigation made by O. Marinelli in 1893 on the distribution of population in Sicily. He ascertained the fact that while the greatest density of the northern and eastern slopes is found on the coasts, that of the southern or African slope occurs entirely at a height above sea-level of over 1,300 feet. He attributed this fact to the influence of malaria and the unsettled state of the country in the Middle Ages, when the population was driven inland. In discussing these conclusions Dr. Theobald Fischer (*Petermanns Mitteilungen*, 1893, No. 8) expressed the opinion that the scanty population along the African coast is due still more to the natural characteristics of that coast, where the steep cliff of tertiary strata affords no natural harbors and where there were no suitable sites for strongholds to repel the attacks of pirates from the Barbary coast. Furthermore the rainfall is small, there is little level ground for cultivation, springs are scanty, and even the principal streams afford poor facilities for irrigation.

## POLAR REGIONS.

THE DUKE OF THE ABRUZZI returned to Tromsø in the *Stella Polare* on the 6th of September. His ship was fast in the ice for eleven months, and her sides were crushed by the pressure. She was pushed on the land, and four sledge parties were sent out to make explorations. One of these parties, composed of a Norwegian and two Italians, never returned. Another, led by Capt. Cagni, was gone 105 days, and reached the highest latitude yet recorded—86° 33' N.

The general health of the party was good throughout the voyage and there was comparatively little suffering.

On the 11th of September the Duke arrived at Christiania and was received with the greatest enthusiasm. Nansen welcomed him on behalf of the University, and at night there was a grand torch-light procession.

LIEUT. AMDRUP'S GREENLAND EXPEDITION arrived at Copenhagen on the 4th of October. The party landed at Cape Dalton,  $69^{\circ} 25' N.$ , on the 19th of July, and Lieut. Amdrup mapped the coast to  $67^{\circ} 20'$ , the point at which the work ended in 1899. Dr. Hartz, at the same time, was employed in exploring and charting the coast to the northward as far as Scoresby Sound.

TWO ANDREE BUOYS have been discovered. One, marked No. 3, was picked up in the open sea, on the west coast of Iceland, on the 7th of July. When opened at Stockholm, in the presence of Nordenskiöld, Nathorst and others, it was found to be empty. The second buoy (No. 4) was reported from Skjervö, Norway, on the 31st of August. It contained a notice that it was thrown out at 10 P.M., on the 11th of July. At the time of writing the balloon was at an altitude of 250 metres (820 feet), and moving in the direction N.  $10^{\circ}$  East. A postscript adds that the direction had changed to N.  $45^{\circ}$  E., that the balloon was above very rugged ice, with splendid weather, and that four carrier pigeons had been released, and were flying west.

Andree made his ascent July 11, 1897.

CAPTAIN BAUENDAHL was to leave Hamburg in the middle of August on an expedition to the North Pole. He describes his plan in a communication dated July, 1900:

There go with me a pilot, R. Dressler, and five seamen. The vessel is a deep-sea fishing boat, the *Matador*, of 44 tons. It has no engine. I propose to make for the pack-ice north of Spitzbergen and then to steer to the eastward till I come to open water or a channel which seems to offer a passage for the ship to the north. If I find the water, I shall push as far north as possible till the way is closed, when I shall leave the vessel perhaps, at the Seven Islands, and press on over the ice with the crew and the provisions. It depends upon the currents, the ice, the land and other conditions whether the return route shall be by way of Franz Josef Land, or Greenland, or in some other direction.

My reasons for choosing my route and method are that previous attempts to reach the Pole in ships have been frustrated by the masses of ice or, when open water invited advance, by the dread of risking the vessel and the desire to keep it for a base. So far as I know, no one has yet pushed his ship into the pack-ice northeast of Spitzbergen. Parry in 1827 found himself north of Spitzbergen, where, owing to the encounter of the Gulf Stream with the Polar current, the wall of ice seems to be especially compact. It appears to me that, more to the eastward, the conditions may be such as to afford an opportunity for progress with a ship.

Should we find ourselves compelled to take to the ice, we know from the examples of the *Hansa* and the *Polaris* that men can travel over the ice-field if they have sufficient food and fuel. I carry enough of these for two years—a weight, that is, of about 200 hundred weight—to drag with us at first; but I hope to make my way even over rough ground and to obtain at the same time scientific geographical results.

Whatever Capt. Bauendahl may do in the Arctic, his success in finding six men to help him pull a load of ten tons to the North Pole is a remarkable feat, and all must wish him and them a safe deliverance from a ship with such an evil name as *Matador*.

MR. WILLIAM ZIEGLER, of New York, proposes to fit out and dispatch an expedition to the North Pole in the summer of 1901. There will be two ships, and the leader of the expedition will be Mr. Evelyn B. Baldwin, who was with Peary in Greenland in 1893, and a member of the Walter Wellman party in Franz Josef Land in 1898-99.

Mr. Baldwin has been attached to the U. S. Weather Bureau.

The Berlin correspondent of the London *Standard* gives some details of the construction of the ship for the German Antarctic Expedition. It is a wooden, three-masted schooner, with strong ribs, and triple woodwork of oak, pitch pine, and greenheart, for protection against the ice pressure. It is hoped by this means to obtain sufficient strength without adopting the peculiar form of the *Fram*. The ship will have a triple-expansion engine capable of an average speed of seven knots. The space under the forecastle will be prepared for about fifty draught dogs. All the available space will be turned into coal-bunkers. Besides five ordinary boats an oak naphtha-boat will be taken, six metres long and two broad, and capable of holding fourteen to twenty persons, or 2,500 kilograms. The engine, of four horse-power, will give the boat a speed of from four to five knots. A captive balloon, with the necessary filling apparatus and a searchlight apparatus, will be taken; also a wind-mill for the working of the dynamo-engine, when the boiler is not under steam. Termination Island, geographically still little known, will probably form the first objective point of the expedition.